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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/808,526	03/25/2004	Makoto Nagai	65933-076	5937

7590 07/26/2006  
McDERMOTT, WILL & EMERY  
600 13th Street, N.W.  
Washington, DC 20005-3096

EXAMINER

HUYNH, NAM TRUNG

ART UNIT PAPER NUMBER

2617

DATE MAILED: 07/26/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/808,526	<b>Applicant(s)</b> NAGAI, MAKOTO	
	<b>Examiner</b> Nam Huynh	<b>Art Unit</b> 2617	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 31 May 2006.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1,2,4-7,9 and 10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-2, 4-7, and 9-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)             | 4) <input type="checkbox"/> Interview Summary (PTO-413)                     |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)    | Paper No(s)/Mail Date. _____  |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____   | 6) <input type="checkbox"/> Other: _____                                    |

## DETAILED ACTION

### *Response to Amendment*

This office action is in response to amendment filed on 5/31/2006. Of the original claims 1-11, claims 1-2, 4-7, and 9-10 have been amended and claims 3, 8, and 11 have been cancelled.

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 4-6, and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US 2004/0180695) in view of Du et al. (US 6,181,947).

Regarding claims 1, 4-6, and 9, Sano discloses a base station that comprises the following:

- A receiver that receives reception signal quality information transmitted from the mobile station that includes a signal-to-interference ratio and a delay spread (permissible delay time detector) (pages 1,2, paragraph 11, 15).
- A setting unit (decision unit) that selects the modulation method using the SIR and the delay spread measured by the mobile station (page 5, paragraph 80).
- A transmission control unit (instruction unit) that transmits control information to the mobile station using input from the setting unit (modulation method) (page 6, paragraph 93).

The invention of Sano pertains to adaptively and variably setting modulation methods of a base station based upon signal quality information, which includes a delay spread, transmitted from the mobile station (terminal) and does not explicitly disclose the determination of the number of channels per frame to be allocated to the terminal based on the permissible delay, nor is an application used by the terminal taken into account.

Du et al. discloses a system for the wireless transmission of a frame-synchronized signal between a radio base station and at least one mobile terminal (title). In the scope of the invention, a mobile terminal announces the respective service requirements to the base station over a control channel, and the base station defines the channels for the transmission of data (column 2, lines 17-22). More specifically, the base station is configured to distinguish whether synchronous service data (i.e. a continuous data flow such as speech) or asynchronous service data (i.e. data packets) is required by the mobile terminal (column 1, lines 40-58). Based on this determination, the base station defines the number of channels per frame (columns 1-2, lines 59-67, 1-

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4). Therefore it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the setting and transmission control unit of Sano, to include the ability to control channel allocation per frame, as taught by Du et al., in order for the base station to react to load changes much more flexibly.

4. Claims 2, 7, and 10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Sano (US 2004/0180695) and Du et al. (US 6,181,947), as applied to claims 1, 6, and 9 above, and further in view of Lohman et al. (US 2003/0083104).

The combination of Sano and Du et al. does not explicitly disclose comparing the delay time to a predetermined threshold value and using this determination to select a modulation method and allocate channels. Lohman et al. discloses a radio communications system in which a base station receives a message containing addressing information corresponding to one of a plurality of terminals (page 1, paragraph 6). The addressing information comprises a delay index that is compared to a delay-values (maximum or threshold values) allowed for the cell to maintain certain Quality of Service-which is often used as a Service Level Agreement (page 3, paragraph 35). With the receipt of this information, the base station can direct modulation scheme and coding level (page 1, paragraph 5). Therefore it would have been obvious to one of ordinary skill in the art to modify the combination of Sano and Du et al. to compare the delay with a threshold and choose a modulation scheme, as taught by Lohman et al., in order to guarantee a certain level of Quality of Service for the service requested by the mobile station.

***Response to Arguments***

5. Applicant's arguments with respect to claims 1-2, 4-7, and 9-10 have been considered but are moot in view of the new ground(s) of rejection.

***Conclusion***

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

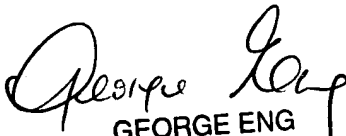
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Nam Huynh whose telephone number is 571-272-5970. The examiner can normally be reached on 8 a.m.-5 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, George Eng can be reached on 571-272-7495. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

NTH  
7/19/06

  
GEORGE ENG  
SUPERVISORY PATENT EXAMINER